What is claimed is:

1   1.   A pointing device with a locus smoothing function,
2 comprising:
3   a locus processing circuit receiving a digitized
4   displacement and executing an accumulation
5   procedure to generate an accumulated value of
6   displacement;
7   wherein when the accumulated value satisfies a preset
8   condition, the accumulated value is output to a
9   processing device for smoothing a locus of a
10   pointer on a display device and a reset procedure
11   is executed to reset the accumulated value.

1   2.   The pointing device as claimed in claim 1 is an
2 optical mouse.

1   3.   The pointing device as claimed in claim 1, wherein
2 the preset condition comprises the accumulated value located
3 within a preset range of a coordinate space having at least
4 two dimensions.

1   4.   The pointing device as claimed in claim 1, wherein
2 the digitized displacement comprises a plurality of
3 directional displacements having at least a first
4 directional displacement and a second directional
5 displacement, the accumulated value comprises a plurality of
6 directional accumulated values having at least a first
7 directional accumulated value and a second directional
8 accumulated value, and the accumulation procedure
9 accumulates the first directional displacement to yield the

11

10 first directional accumulated value, and the second
11 directional displacement to yield the second directional
12 accumulated value.

1   5.   The pointing device as claimed in claim 4, wherein
2   the preset condition requires that the first directional
3   accumulated value is not equal to a first preset value and
4   the second directional accumulated value is not equal to a
5   second preset value.

1   6.   The pointing device as claimed in claim 5, wherein
2   the. first preset value is 0 and the second preset value is
3   0.

1   7.   The pointing device as claimed in claim 5, wherein
2   the reset procedure resets the first directional accumulated
3   value to 0 and the second directional accumulated value to
4   0.

1   8.   The pointing device as claimed in claim 4, wherein
2   the preset condition requires that the first directional
3   accumulated value is not equal to a first preset value, the
4   second directional accumulated value is not equal to a
5   second preset value, and the first directional accumulated
6   value is greater than a third preset value or the second
7   directional accumulated value is greater than a fourth
8   value, wherein when the first directional accumulated value
9   is greater than a fifth preset value or the second
10 directional accumulated value is greater than a sixth value,
11 the accumulated value is output to the processing device for
12 smoothing the locus of the pointer on the display device and

13 the reset procedure is executed to reset the accumulated

14 value.

1   9.   The pointing device as claimed in claim 8, wherein

2 the first preset value is 0, the second preset value is 0,

3 the third preset value is 2, the fourth preset value is 2,

4 the fifth preset value is 4, and the sixth preset value is

5 4.

1   10. The pointing device as claimed in claim 8, wherein

2 the reset procedure resets the first directional accumulated

3 value to 0 and the second directional accumulated value to 0

1   11. A locus smoothing method, appropriate for a

2 pointing device, comprising the steps of:

3   receiving a digitized displacement and executing an

4   accumulation procedure to generate an accumulated

5   value of displacement; and

6   determining whether the accumulated value satisfies a

7   preset condition, if so, the accumulated value is

8   output to a processing device for smoothing a

9   locus of a pointer on a display device and a

10   reset procedure is executed to reset the

11   accumulated value.

1   12. The locus smoothing method as claimed in claim 11,

2 wherein the pointing device is an optical mouse.

1   13. The locus smoothing method as claimed in claim 11,

2 wherein the preset condition comprises the accumulated value

3 located within a preset range of a coordinate space having

4 at least two dimensions.

1   14.   The locus smoothing method as claimed in claim 11,

2   wherein the digitized displacement comprises a plurality of

3   directional   displacements   having   at   least   a   first

4   directional   displacement   and   a   second   directional

5   displacement, the accumulated value comprises a plurality of

6   directional   accumulated   values   having   at   least   a   first

7   directional accumulated value and a second directional

8   accumulated   value,   and   the   accumulation   procedure

9   accumulates the first directional displacement to yield the

10   first   directional   accumulated   value,   and   the   second

11   directional   displacement   to   yield   the   second   directional

12   accumulated value.

1   15.   The locus smoothing method as claimed in claim 14,

2   wherein   the   preset   condition   requires   that   the   first

3   directional accumulated value is not equal to a first preset

4   value and the second directional accumulated value is not

5   equal to a second preset value.

1   16.   The locus smoothing method as claimed in claim 15,

2   wherein the first preset value is 0 and the second preset

3   value is 0.

1   17.   The locus smoothing method as claimed in claim 15,

2   wherein the reset procedure resets the first directional

3   accumulated   value   to   0   and   the   second   directional

4   accumulated value to 0.

1   18.   The locus smoothing method as claimed in claim 14,

2   wherein   the   preset   condition   requires   that   the   first

3   directional accumulated value is not equal to a first preset

4   value, the second directional accumulated value is not equal

5   to a second preset value, and the first directional

6   accumulated value is greater than a third preset value or

7   the second directional accumulated value is greater than a

8   fourth value, wherein before the step of determining whether

9   the accumulated value satisfies a preset condition, the

10 method further comprises the step of:

11   determining whether the first directional accumulated

12   value is greater than a fifth preset value or the

13   second directional accumulated value is greater

14   than a sixth value, if so, the accumulated value

15   is output to the processing device for smoothing

16   the locus of the pointer on the display device

17   and the reset procedure is executed to reset the

18   accumulated value.

1   19. The locus smoothing method as claimed in claim 18,

2   wherein the first preset value is 0, the second preset value

3   is 0, the third preset value is 2, the fourth preset value

4   is 2, the fifth preset value is 4, and the sixth preset

5   value is 4.

1   20. The locus smoothing method as claimed in claim 18,

2   wherein the reset procedure resets the first directional

3   accumulated value to 0 and the second directional

4   accumulated value to 0.